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INSPECTION AND GRADING OF HAY.

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CONTENTS.

	Page.		Page.
Grades and inspection service	2	Certificates of grade and their uses	13
How hay is inspected and graded	7	Uniform grades and inspection	15

In theory, hay is inspected for the purpose of promoting better business relationship between the various agencies engaged in handling or marketing hay, especially those which do not come into personal contact with each other, such as the country shipper and the distributor. In actual practice the inspection often proves highly satisfactory to one of the interested parties and quite the reverse to the other.

The necessity for inspection of hay arose with the advent of the trunk-line railroads and the invention of the baling press. These factors greatly widened the heretofore rather unimportant local market by making it possible and often very profitable to ship baled hay many hundreds of miles. As soon as baled hay was shipped in appreciable quantities difficulties between shipper and receiver arose because they did not have the same ideas as to what constituted certain qualities or grades, or they were unable to describe such qualities accurately.

Considerable progress has been made in the inspection of hay during the last 30 years, as is evidenced by the large volume of business done in the marketing of hay, but the inspection has not yet reached a really satisfactory stage.

It is the purpose of this bulletin to describe methods of inspection in vogue to-day, indicate the relative merits of each kind, and give information obtained by a comprehensive study of the subject recently made in the leading hay markets of the country for the bene-

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fit of all agencies engaged in the production and marketing of hay. These agencies are (1) the producer, (2) the producer shipper, (3) the country shipper, (4) the track buyer, (5) the commission man, (6) the terminal wholesaler and shipper, (7) the broker, (8) the distributor (wholesale and retail), and (9) the consumer of market hay. The endeavor is to present this important marketing factor in such a light that each agency engaged in the hay business will understand some of the problems that confront other agencies. Such an understanding should reveal the necessity for a better and more uniform inspection of hay and should induce all agencies to do their part in bringing about this much-needed change, to the benefit of all.

GRADES AND INSPECTION SERVICE.

HOW GRADES WERE FORMED.

The first grades formulated for hay were what might be termed "local" grades; that is, they were used by a few men in one market and were perhaps very different from the "local" grades used in other markets to which the same kinds of hay were shipped. Later, terminal-market hay dealers formed business associations such as city hay dealers' associations, exchanges, and boards of trade, which had trade rules governing the method of inspecting, buying, and selling of hay by its members. The grades used were formulated by the members or were grades used by other organizations in other markets.

The grades in most general use are those of the National Hay Association. Several of the States have what are known as State grades for hay, and in a few instances the grades of the National Hay Association have been adopted by the States.

"Local" grades still exist in many markets. Sometimes they are used as "official" grades for a specified market and sometimes they are used personally by members of the association to which the hay dealers belong in spite of the fact that such members are expected to adhere strictly to the rules of their association and use the "official" grades only.

It is very significant that in the formulation of grades the producer, who has all of the responsibility, the work and the worry of seeding, growing, and making of succulent forage into marketable hay is scarcely considered, much less consulted, when grades for hay are being formulated, although the value of his total crop stands second among agricultural crops and is outranked only by the great corn crop.

The requirements of grades can not be thoroughly understood unless the desires of the principal agencies be known. There are at least three agencies engaged in the marketing of hay whose motives or wishes, respecting grades, are opposed to one another.

The desires of (1) the country shipper are opposed to those of (2) the terminal receiver and shipper, whose desires are opposed somewhat to those of the (3) distributor in a consuming territory.

It is a well-known fact that the country shipper wants rather "loose" grades, that is, grades which will permit wide latitude with respect to the quality demanded. He naturally wants grades which allow considerable variation within each grade, for then it becomes rather easy for him to deliver any specified kind, especially of the better grades of hay.

The terminal-market dealer wants very rigid or "tight" grades, each of which will permit but one quality of hay to fit the grade. Such grades would be of incalculable advantage to him, especially when prices have dropped and he wants to reject hay arriving upon a poor market. Another advantage to the terminal dealer would occur if he were allowed to reconsign hay without having to furnish an "out" inspection certificate, because he could place his own grade on such outbound hay. In other words, the principle of this terminal-market practice is to buy as cheaply as possible from the country shipper by use of "rigid" grades or inspection and sell at as high a price as possible to the distributor by means of grading the hay up.

The large distributor in the consuming territory wants one thing more than any other, namely, to bring about some system whereby he will be able to get actually the kind of hay he has bought. This is true because, in many instances, he sells hay to those who are desirous of buying only the better grades. At present the best way for the southern hay dealer to get good No. 1 hay is to deal through large terminal market dealers who keep traveling representatives on the road for the purpose of visiting the southern dealers once or twice a year in order to "keep together" on the matter of grades. The smaller southern dealer who buys from terminal dealers who do not send "outbound" certificates with the invoice is likely to grade hay high. He will often accept No. 2 and No. 3 hay as being No. 1 because he can resell it to customers who do not know good hay as judged by present grade requirements. The result of the difference of opinion regarding grade requirements is that one type of dealer pays for real No. 1 hay and gets it while the other type of dealer pays the market price for No. 1 hay and often does not get it. It is quite probable that the distributor's desires regarding grade requirements would coincide with those of the country shipper if the use of official outbound inspection certificates accompanied all hay reconsigned from terminal markets.

The formation and occasional revising of market grades for hay are largely under the control of the terminal-market members of organizations composed of the various agencies engaged in the marketing of hay. Attempts of country shippers to revise grades so

that they will be suitable to the producers' ideas usually fail. This is evidenced by the attempt in 1920 on the part of country shippers to do away with "Standard" timothy, a grade which was very seldom used by country shippers. This grade has caused considerable confusion in the hay business and was eliminated in August, 1921.

VARIATION IN ESTABLISHED GRADES.

Almost a score of sets of grades have been in existence for several years and they show considerable variation in the requirements for certain grades.[1] "Prime" timothy is a grade used in only two terminal markets, Buffalo and New York City. This grade calls for "straight" timothy, a product which now is seldom grown.

"Choice" timothy is found in the grades of Buffalo, Galveston, Little Rock, Fort Worth, Denver, and in the Washington and Oregon State grades. Little Rock grades require that "choice" timothy be "straight" timothy. The Denver grade allows 12.5 per cent of "other" grasses, and the other sets allow 5 per cent of "other" grasses.

No. 1 timothy grades also show some variation. As regards mixture, the New York City grade is the strictest, while the requirements of the Washington and Oregon grades are the most lenient. No. 1 New York City timothy allows for other grasses, with the exception of clover, while the Washington and Oregon State grades allow 15 per cent of redtop, or clover or wild grasses, or 25 per cent of alfalfa.

The Pennsylvania State grades allow 20 per cent of "other" grasses in No. 1 timothy, and most of the other sets of grades allow only 12.5 per cent of "other" grasses. Standard timothy is found in only two sets of grades, namely, those of the National Hay Association and of Little Rock, Ark. The grade requirements for Nos. 2 and 3 timothy also show considerable variation, which tends to confuse the shipper who ships hay to different markets not using the same set of grades.

The variation in the different sets of grades is not greater than the variation of interpretation of grades in different markets using the same set of grades.

PRESENT STATUS OF INSPECTION SERVICE.

With but few exceptions, inspection of hay is made only at terminal and distributing markets. The exceptions are in Washington State in the Yakima Valley, where National Hay Association grades are used by inspectors under the directions of the Seattle Merchants' Exchange, and at several points in Idaho, where State inspectors employ the State grades.

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[1] For detailed information regarding grade requirements used by various markets, see grades used by National Hay Association, New York City, Little Rock, Denver, and Galveston, and Washington, Oregon and Pennsylvania State grades.

In general, the hay producer or the country shipper is utterly unable to have an official inspection made. It is a strange state of affairs that makes it impossible for a country member of a national hay association to demand and get an inspection of his hay in a terminal market from an inspector who has been approved by his own association. In other words, these approved hay inspectors[2] are to be found almost entirely in the large city markets working entirely for the interests of the receiving end of the hay business. It would seem to be for the best interests of the hay trade in general that all agencies engaged in the business should have an equal chance to call for an official inspection to settle questions regarding the quality or grade of their hay.

One of the chief reasons why the inspectors in half of the markets using National Hay Association grades have not been approved is because of the persistent use of special or "local" grades in those markets.

APPOINTMENT AND SUPERVISION OF INSPECTORS.

Hay inspectors receive their appointments in one of three ways: (1) From exchanges, boards of trade, etc.; (2) from the city council or mayor; (3) from State authorities. State and city administration inspectors are subject only to the administration appointing them, and the tenure of their office as a rule is not subject to the wishes of the terminal hay dealers.

By the first method of appointing inspectors the hay dealers have direct control of the tenure of office of the inspector. The inspector is employed by and works for the hay dealers, and it is obvious that his tenure of office would depend upon the degree of satisfaction he gives his employers in inspecting and grading hay in a manner to satisfy the dealers in that market. It is a matter of common knowledge that there is a wide variation in the manner in which inspectors, using the same rules for grading, interpret grades

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[2] National Hay Association inspectors were located in the following places in 1921:

Indianapolis, Ind.	San Antonio, Tex.	Savannah, Ga.
Sioux City, Iowa.	Atlanta, Ga.	New Orleans, La.
Richmond, Va.	St. Joseph, Mo.	St. Louis, Mo.
Denver, Colo.	Birmingham, Ala.	Omaha, Nebr.
Chattanooga, Tenn.	Baltimore, Md.	Winchester, Ind.
Houston, Tex.	Jacksonville, Fla.	

The following places are using National Hay Association grades entirely or in part, but their inspectors have not been approved:

Buffalo, N. Y.	St. Paul, Minn.	Chicago, Ill.
New York City.	Cleveland, Ohio.	Pittsburgh, Pa.
Huntington, W. Va.	Detroit, Mich.	Toledo, Ohio.
Minneapolis, Minn.	Dallas, Tex.	Memphis, Tenn.
Meridian, Miss.	Duluth, Minn.	Fort Worth, Tex.
Jersey City, N. J.	Cincinnati, Ohio.	Brooklyn, N. Y.
Norfolk, Va.	Nashville, Tenn.	Louisville, Ky.
Columbus, Ohio.	Philadelphia, Pa.	Kansas City, Mo.

in certain markets. A careful investigation has shown that this variation is not due usually to a lack of knowledge on the part of the inspectors but is often accounted for by the general quality of hay received in the market and the demand for certain grades. Inspection is likely to be more strict in a market receiving a large percentage of high-grade hay than in one where the bulk of hay received is of the poorer grades. The trade realizes this and before one purchases hay from a strange market he should familiarize himself with the way in which the rules for grading are interpreted.

Experience in the hay business and a good character are the chief qualifications for a hay inspector. Inspectors are not allowed to be financially interested directly or indirectly in the hay business, for they must be free from all temptation to commit unfair practices in buying and selling hay.

The successful inspector, at present, is one whose work satisfies the majority of his employers at least half the time. No efforts have ever been made to train inspectors so that they will know positively that their work is correctly done. At present the only way of testing an inspector's ability is to appoint a committee of hay dealers to see if the inspector grades hay the way they would grade it. Both inspector and committee might judge hay far from accurately, but would have no way to ascertain each other's inefficiency. Studies in hay standardization have opened up a rather large field regarding possibilities of training men to become proficient inspectors and of aiding inspectors to correct a tendency to overestimate or underestimate factors used in judging certain kinds and qualities of hay.

METHOD OF PAYMENT OF INSPECTORS.

There are two general methods of paying inspectors, namely, by the fee system and by a specified salary per year. Taking all things into consideration, the straight salary method is probably the most satisfactory. The inspector is certain of a stipulated salary every month, and if the hours of work are not too long, and if the salary is commensurate with the duties required, the inspector should be satisfied and willing to perform his duties accurately.

The fee system may be objectionable for two reasons: (1) If the inspector's work is heavy there may be a temptation to slight his work in his eagerness to inspect too many cars a day and thus increase his earnings; (2) if an inspector working under the fee system has comparatively little to do, his earnings become inadequate to support him. Then he is obliged to do other work in connection with his inspection duties to earn an adequate amount.

PERCENTAGE OF HAY INSPECTED IN TERMINAL MARKETS.

The percentage of hay inspected in terminal markets varies considerably. In a few markets all hay is inspected on arrival. This

is usually a car-door inspection subject to a bale inspection later if the hay is sold in or near the city. In a few markets the inspection service is made a source of revenue for the exchange, and but little attention is paid to the grades given the hay by the car-door inspection method. In one market having the car-door inspection system 90 per cent of the hay received is reconsigned without unloading or transferring the hay to another car, yet no provision is made to issue "outbound" certificates of inspection.

The general rule is for inspection only at the request of the dealer interested in the sale of the hay. It is usually requested when the shipper has graded the hay too high or when the market has slumped and the city dealer thinks that an official inspection might lower the grade claimed by the shipper, which would in turn lessen his losses.

Experienced hay dealers say that there is no need of an official inspection if buyer and seller have an opportunity to inspect the hay thoroughly. If the buyer is present he buys "on sight" and uses his own judgment as to grade. If after a sale of this kind has been made and the purchaser upon unloading the car finds it not to be of the grade shown by the plug hay, he usually has no redress.

HOW HAY IS INSPECTED AND GRADED.

CAR-DOOR INSPECTION.

The most common method of inspection is to inspect the hay in the car doors. This kind of inspection, under present conditions, is of comparatively little value to the hay trade in general. The most serious objection to car-door inspection is that the hay in the doors may not represent truly the average grade of the entire car. There is a feeling among receivers that the placing of good hay in the doors and poorer hay away from the doors is not always due to chance. It can be readily seen that if door inspection were final, that there might be a temptation for some to load the best hay in the doors. However, there is a large and growing class of country shippers who have found that, all things considered, fair or uniform loading pays best in the long run. With uniform loading, car-door inspection becomes more valuable.

At present the only conditions under which a car-door inspection will be accepted by receivers is when the receiver knows from past dealings with a particular shipper that the shipper loads his car uniformly. In case such a shipper is unable to load hay of a uniform grade he notifies the receiver in the invoice as to the amount of each grade. If shippers in general would be honest in loading cars, car-door inspection would be valuable. A large percentage of the hay trade is in favor of the enactment of either State or Federal laws making the nonuniform loading of cars subject to car-door inspec-

tion a misdemeanor subject to a fine of such proportions that it would tend to discourage quickly this unfair practice.

The easiest and quickest way of making a car-door inspection is for the inspector to stand on the ground in front of the open door and form his opinion regarding grades after looking at the exposed bales. If no grade variation is shown by any of the bales he may be able to grade the hay fairly well from the ground. Many inspectors, however, are more painstaking than this in making car-door inspections. They carry a short light ladder about 6 feet long, which enables them to get a close view of the hay even at the top of the car. When cars are not loaded to the roof in the doorway they get into the car, so as to see as many bales as possible. Some thorough inspectors examine the hay in the opposite doorway if they are in doubt regarding grade after viewing the hay in the first doorway.

FIG. 1.—Inspecting hay by car-door method.

There are factors which sometimes make car-door inspection very difficult. Closeness of the car tracks is one. Crowded cars make a poor light for inspection. Sometimes a newly painted red car will reflect light in such a way that it is practically impossible for an inspector to judge the true color of the hay. Some inspectors under such conditions pull out samples from several bales and carry them to a place where the light is good. When the sky is overcast it is sometimes impossible to distinguish the very slight difference in color that differentiates the two grades. Again, at times car doors are not opened to their full extent. Under such conditions the inspector may be unable to open the door and may be obliged to put a grade on the hay from the little portion he can see, making his work very unsatisfactory even to himself. Some inspectors carry a short crowbar for opening difficult doors.

Car-door inspection is more or less unsatisfactory when several grades are shown in the doors. Sometimes the inspector is able to

"average" the grade, while at other times he does not feel justified in doing so. To avoid unjust criticism it is customary in some markets to make out the certificate as showing, for example, No. 1 Timothy and "some" No Grade hay, etc. Of course such an inspection is of little, if any, value to the receiver.

Hay in transit is often damaged by rain entering a partly closed doorway. The inspector has no way of knowing how much hay has been wet or damaged, and he is obliged to grade the hay as low as it can possibly be, which may cause a loss to the shipper if the settlement is made as per the inspection certificate.

Some shippers of alfalfa in the irrigated sections of the West complain bitterly against car-door inspection because of the bleaching of the hay at the doors. They claim that the entire car is graded as bleached, when as a matter of fact the only bleached bales are the few that the inspector sees in the doorways. If this is true, car-door inspection should not be used for alfalfa shipped from points so distant that bleaching takes place in transit.

CAR-DOOR INSPECTION CERTIFICATES.

As might be supposed, car-door inspection certificates can not be depended upon to tell all of the truth concerning a carload of hay. If the car contains only one grade it is so stated on the certificate. If more than one grade is showing in the doorway, however, the certificate is of little or no value to the shipper, for it does not state how much of each grade the car contains.

Inspection certificates are sometimes made out with respect to the contents of the car as follows: No. 1 Timothy and No. 2 Timothy; No. 1 Timothy and No. 3 Timothy; No. 1 Timothy and some No Grade, etc. Since the shipper has no practical way of proving how much of each grade he loaded into the car, he is obliged to allow the receiver to make the returns as he sees fit. Unless the shipper knows personally that the receiver is considered honest he is likely to be dissatisfied with the returns from hay shipped to terminal markets using car-door inspection.

SAMPLE INSPECTION.

Sample inspection is used but little in terminal hay markets. It is somewhat similar to car-door inspection, but is less dependable except under ideal conditions. Sample inspection is made by opening one or two bales and taking or selecting a few handfuls of hay, which are then brought to the inspector's office and there graded. It is taken for granted that these small samples are truly representative of the entire car, since the carload is graded as being of the grade shown by the samples. In making sample inspection it is customary to select one or two of the bales in the doorway, usually

at the top, since they are the most accessible bales in the car. Under these circumstances there is not much chance of securing representative samples unless the car has been loaded with hay of uniform grade, which does not occur in a large percentage of cases.

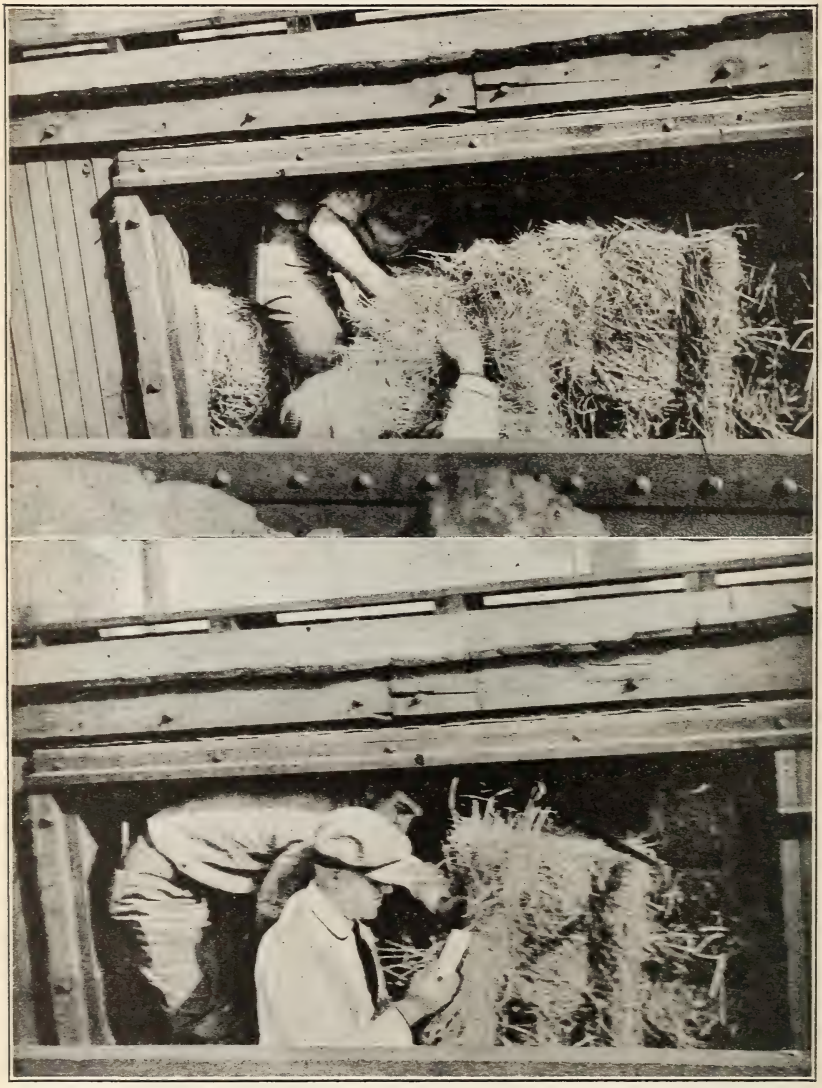

FIG. 2.—Obtaining a sample from a car of hay for use in grading and selling the hay on one of the exchanges.

Sample inspection is in favor where the samples are taken on the floor of the exchange and are used in selling. It also saves time when the inspector's work is very heavy. By having the samples brought to his office the inspector can do more inspection work per day

than if he had to visit personally all the cars located in several holding yards in different parts of the city.

Reinspection in or near the terminal market usually consists of bale inspection at the warehouse of the buyer, which will be discussed in detail under bale inspection. Appeals from the inspector's decision are usually settled by a committee of hay men appointed by the local hay dealers' association or exchange. This committee inspects the hay, but it is seldom necessary to overrule the inspector. Reinspection is usually caused by improper loading, that is, by putting the best hay in the doorways and poorer hay where the inspector can not see it. This is a pernicious practice that should be stopped.

PLUG INSPECTION.

Plug inspection is the newest method of inspection and has been in vogue only a few years. This method is used in a few of the terminal markets and would be used more extensively if proper facilities could be secured. Plugging is usually made under the supervision of the inspector. Men are hired by him to handle the hay as he inspects the cars. The plugging consists in taking out a number of bales from the doorway and toward each end of the car until the inspector thinks he can see enough of the bales to determine the grade of the hay in the car. In some instances only about 30 bales are removed, while in others the larger portion of the hay is moved, but the inspector seldom actually sees all the hay in the car. In one market hay from the doors and one end of the car is loaded on wagons and the hay from the other end is moved along the car. Sometimes a section is taken out along one side of the car to the end, in which case less than one-half of the hay in the car is seen by the inspector. In some markets the hay is put back into the car immediately after the inspector has finished. In such instances the owner must be on hand when the car is plugged if he wishes to see the hay inspected and graded. In other markets the plug is left outside the car until after the car has been sold, which usually occurs within a few hours after the car has been plugged. Plug inspectors' fees ranging from 75 cents to $3 per car are charged in the various markets. These charges are almost always assessed against the shipper, although he is not allowed in most markets to call for an official inspection of his own hay.

Markets have changed to the plug method of inspection for several reasons. In one large market plug tracks were established primarily to eliminate bale inspection. Shippers from this market do not want an official grade placed upon the hay which they ship out, as they wish to use their own grades. They claim that the dealers in the southern territory to which they ship have different ideas as to what

constitutes the various grades of hay, and they must know what their buyers want. When a car of hay reaches the plug tracks it is opened and 30 or more bales are placed on the ground in front of the car. It is officially inspected only when it has been bought "to arrive" and does not seem to be of the grade bought, or when the market has declined and the receiver hopes that by having it officially inspected he can refuse the shipment. Many unfair practices have grown from this situation, the most common of which is the double standard of grades, one for inbound shipments and the other for outbound shipments.

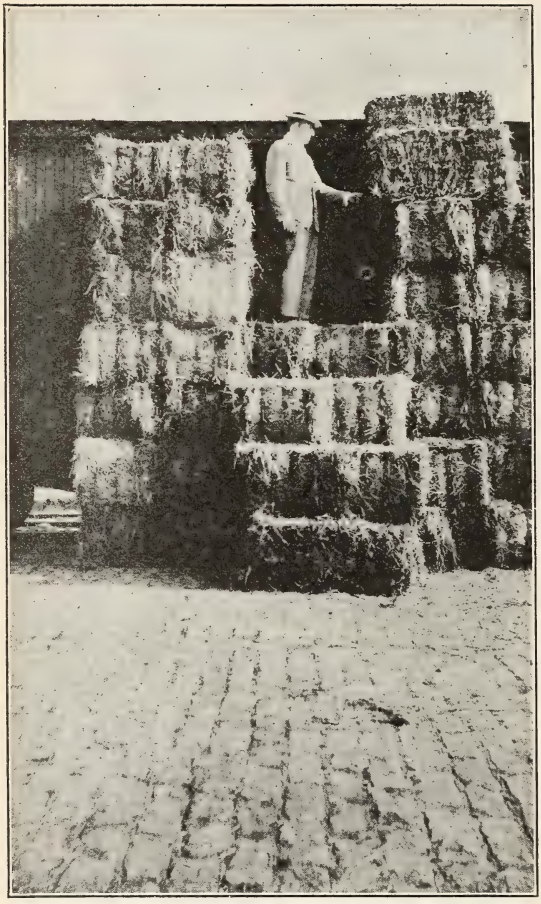

FIG. 3.—Inspecting hay by plug method.

While the plug method is much better than the car-door method, most dealers are of the opinion that it still does not really give the grade of all of the hay in the car. Consequently, inspection certificates based on plug inspection are not entirely satisfactory, since they do not furnish complete information regarding the amounts of different grades upon which to base accurately the returns to the shipper.

WAREHOUSE INSPECTION.

Warehouse inspection usually consists of inspecting hay after it has been placed in the warehouse. The value of this method depends directly upon how the hay is piled. It is obvious that the longer and narrower the pile the more hay will be exposed for inspection. When a carload of hay is piled high in a square pile the inspector will be able to see only the outside of the stack, and if

the hay from other cars touches the sides of the pile then only the ends of the carload are exposed for inspection.

The lighting in the warehouse is a very important factor in the successful use of this method. In some warehouses the hay on one side has a much better light than the hay on the other side. Sometimes it is comparatively easy to inspect hay on a bright day, but when cloudy it is nearly impossible to make a fair inspection.

There are two general methods of making out warehouse inspection certificates. One is to state the grades of hay found in the pile, with no attempt to state definitely the number of bales of each kind; the other is to estimate the percentage of each kind of hay showing on the outside of the pile. Neither method of filling out certificates is entirely satisfactory, especially when the shipper and receiver do not have much confidence in each other.

BALE INSPECTION.

Bale inspection is not now used in any of the important markets, except in case of reinspection. A real bale inspection consists of the careful examination of each bale. Bale inspection is rarely called for until the car is partly unloaded and hay, other than the grade purchased, is discovered. When this happens unloading is stopped and the inspector is called in. Upon his arrival he inspects only the hay remaining in the car, because bale inspection usually occurs at the warehouse of the buyer and the inspector has no way of ascertaining what hay came out of the car.

With a badly mixed car the careful inspector usually catches each bale with his hay hook as it comes out of the car and by keeping it on end he can easily turn it so that all four sides can be seen. A careful record of the weight and number of bales of each grade is made and a certificate is filled out showing just what the inspector finds.

REINSPECTION.

In some markets reinspection consists of bale inspection, but in many other markets reinspection differs materially from bale inspection. In such cases the hay remaining in the car is not inspected bale by bale, but the quality of the hay is estimated in bulk as it appears in the car. With this method of reinspection the certificate does not state just how many "off-grade" bales were found, but leaves this rather important matter to the buyer. This is very unfair to the shipper, but as he sells hay on the terms of the terminal market, he is obliged to abide by the rules, grades, and practices of that market. The charge for reinspection ranges from 75 cents to $3 per car.

CERTIFICATES OF GRADE AND THEIR USES.

USE OF "IN" CERTIFICATES.

The principal use of "in" inspection certificates, when terminal inspection was instituted, was to furnish official evidence regarding

the quality of hay whereby an honest settlement could be made between receiver and shipper. With a strictly unbiased inspection service the universal use of certificates of grade would obviously tend to place the marketing of hay on a good business foundation.

However, in many markets "in" certificates are used only occasionally at the present time. Some markets allow the inspection of hay only upon the request of the receiver, and under certain conditions inspection certificates are used unfairly. When a market has a good demand for hay and the prices are advancing from day to day the hay bought "to arrive" is accepted as invoiced without giving attention to the grade, unless it is obviously of such a quality that notwithstanding the advancing market it will show a loss.

For example, hay bought to be No. 2 timothy or better will often be accepted on contract at contract price, even if it actually grades No. 3. Since with the advancing market the dealer has a profit anyway, he does not have the hay graded but accepts it as of the grade bought. But if the market has declined it is customary to have an official inspection made and if the hay is not of the grade bought it is rejected or the shipper is notified of the discount at which it will be accepted. Receivers say that they are obliged to call for inspection on a declining market because they are obliged to protect themselves and accept only the grade contracted for. They claim that when the market is advancing they pay the shipper more than the hay is really worth and therefore the shipper should not complain against inspection on a declining market.

USE OF "OUT" CERTIFICATES.

Except in rare instances, outbound shipments are not now graded. It is claimed by some dealers who do a shipping business from the distributing markets that there is at present such a difference of opinion among consumers and dealers located in consuming territories as to what constitutes the qualifications for the different grades that it would be impossible to sell hay on the same grades on which it is bought in these distributing markets. In other words, this means that dealers will not use an outbound inspection certificate, especially for hay shipped into the South. If the dealers will not reconsign hay according to an official inspection it is evidently because they are not willing to use the grade as determined by their own inspector. There is evidence that grades are sometimes raised on hay shipped into consuming territories, especially on shipments into the South. This is one reason why outbound inspection certificates are not in general use to-day.

It has been found that in some instances if the southern receiver insists on an outbound certificate, the price first quoted will be raised at least $2 or more per ton over the price quoted when no certificate was to be sent. Many dealers in consuming territories know present grades of hay, but are not able to obtain the kind of

hay they want because they can get no official outbound certificates and must take the hay on the grade of the various shippers.

At one large market in 11 months during the year 1919 over 12,000 cars of hay were inspected on arrival and official certificates of grade were issued. At least 50 per cent of this hay was reshipped or sold to points south or east, but no outbound certificates were furnished, and from interviews with dealers and consumers in the territory to which this hay was shipped it appears that in some instances the hay was sold on a higher grade designation than the inbound certificates showed the grade to be.

At another terminal market during the same period nearly 3,000 cars were inspected upon arrival and official certificates as to grade were issued. Nine certificates on "out" inspection were issued, yet it was estimated that more than 50 per cent of all of the hay in this market was reshipped and sold to points farther south.

Conditions are similar in many other markets which have the same practices, for it has been noted that at present very few certificates of grade are officially issued for outbound shipments, even in markets which provide for "in" inspection on all hay arriving on these markets.

UNIFORM GRADES AND INSPECTION.

There will be no improvement in hay marketing until uniform grades are adopted and strictly adhered to in all of the markets. The need for more uniform grades is strikingly shown by the rather general use of special grades to describe a kind of hay not covered by any present grade designation. Those using these special grades are country shippers, distributors, and consumers. They are not used to a noticeable extent in the large terminal markets. Country shippers have found that they are obliged to market a large amount of hay for which present grades are not suited. By using special descriptive grades they are able to sell these kinds of hay more easily and more profitably than if they attempted to classify the hay under existing inadequate terminal-market rules or grades. At present very few hay dealers use the official rules to any great extent, and they use them very carelessly.

Uniform grades, to be of equal value to all marketing agencies, should be of such a nature that each would describe a definite kind of hay in regard to (1) color of leaves, stems, and heads; (2) texture; (3) stage of maturity when cut; (4) approximate amount of other grasses, weeds, stubble, etc.; (5) region where grown in some instances. By using grades containing these factors the buyer and seller could get a very clear word picture which would enable him to know fairly accurately what he is selling or buying. Under the authority conferred by the food products inspection law the Bureau of Markets is conducting extensive investigations with a view to

formulating grades which will be fair and just to all and which will be simple in form, readily understood, and easily applied by all marketing agencies.

ADVANTAGE TO THE TRADE.

To the producer.—The uniform application of standard hay grades will be of the utmost value to the producer, for with them he can, if he so desires, learn the true grade of his product. He will realize that his old, grassy, wornout meadow should be plowed up and reseeded to proper kinds and mixtures that will sell to advantage on the market. The producer who knows grades will be able to market intelligently when selling to the country shipper or when shipping his own hay. Uniform grades will encourage selling hay by grade on the farm.

To the shipper.—The shipper will be relieved of a vast amount of trouble by the uniform application of standard grades, because great variation in the interpretation of grades by different receivers or in different sections or markets will not occur. They will be of great help in his dealings with the intelligent producer and will probably result in more profit to the producer because of the lessened chances of loss now sustained when an average price per ton is made for the producer's entire crop or surplus. With uniform grades it is believed that country shippers as a rule will encourage as much as possible the buying of hay by grade on the farm.

To the consumer.—The consumer will be greatly benefited by uniform grades after he has thoroughly learned them. He may find that the kind of hay he has been buying for "Choice" and No. 1 is only of medium quality. Uniform grades should tend to save the consumer considerable money, for by their use he will know, first, just what kind of hay to purchase; and second, just what kind or grade of hay is to be delivered on his order.

Effect on certain trade practices.—The uniform application of standard grades will make a change in the method of reconsigning hay from terminal markets. Instead of invoicing the hay according to his own judgment the shipper will invoice it according to the inspection certificate issued by the inspector. This method will result in the shipper making less money than formerly when shipping to certain receivers in the distributing territory if the distributor's ideas as to grade requirements have been lower than those of the shipper who has been invoicing hay a little high as regards grades.

It is obvious that the only way to insure the uniform application of grades in all parts of the country is by the maintenance of an effective and unbiased inspection service open to all agencies engaged in marketing. The time when one agency only has the entire benefit of inspection to the detriment of other interested agencies must be passed if any progress is to be made in the hay business.

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